COSM Physics News

September 2, 2015

Georgia Southern University

GS Astronomers Visit Cornell & Travel to Atacama Desert in Chile

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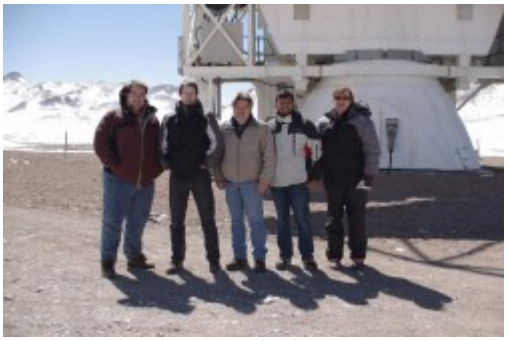
The APEX radio telescope, 16,900 ft above sea-level in the Atacama desert of Chile. The main mirror that collects the typically weak signals from galaxies has a diameter of 12 meters.

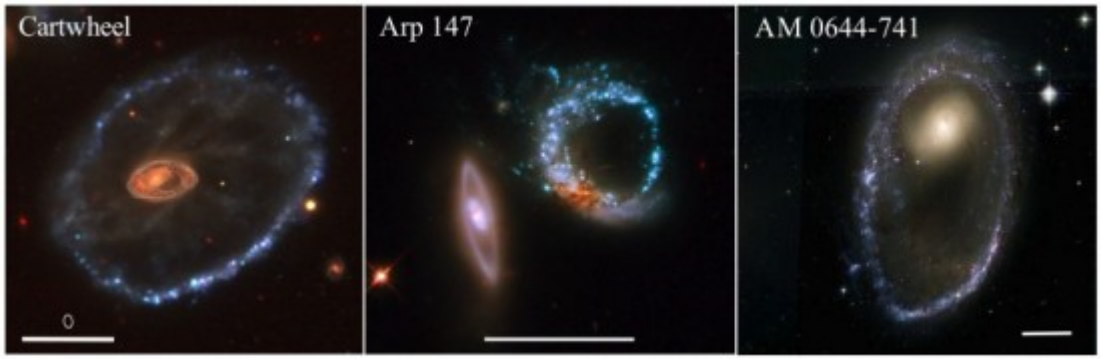
In July physics department professors Sarah & James Higdon traveled to Ithaca, NY, to conduct research with collaborators in Cornell University's Astronomy Department. During their three week visit final plans were made for an upcoming observing run in Chile with the ZEUS-2 spectrometer and several observing proposals were submitted to world-class facilities such as the Karl Jansky Very Large Array (JVLA) radio telescope and the Stratospheric Observatory For Astronomy (SOFIA), as part of our research into star formation in galaxies in the near and distant universe.



Five members of the ZEUS-2 team at the APEX telescope (left to right): Carl Ferkinhoff (Max Planck Institute for Radio Astronomy), Thomas Nikola (Cornell University), Gordon Stacey (PI; Cornell University), Amit Vishwas (Cornell University), and James Higdon (Georgia Southern University).

In August Prof. James Higdon traveled to South America to study star formation in extremely distant galaxies using the ZEUS-2 spectrometer. The instrument was attached to the Atacama Pathfinder EXperiment (APEX) radio telescope high in the Atacama desert in northern Chile at an elevation of 16,900 ft above sea-level, which greatly reduces the effects of the Earth's atmosphere. Despite some unseasonably bad weather the observing run was a success and the group plans additional observing campaigns in the near future.

Prof. Sarah & James Higdon were awarded observing time with the Atacama Large Millimeter Array (ALMA), which is located near the APEX telescope, to study star formation in ring galaxies. ALMA is the premiere telescope of its kind and its use is highly competitive.



Three ring galaxies that will be studied using ALMA. The bright blue rings have diameters of 60 to 150-million light years and are sites of enhanced star formation.